AMENDMENT OF THE CLAIMS

Please amend the claims as shown below:

1. (cancelled)

2. (cancelled)

3. (cancelled)

4. (cancelled)

5. (cancelled)

6. (cancelled)

7. (cancelled)

8. (cancelled)

9. (cancelled)

10. (cancelled)

11. (cancelled)

12. (currently amended) A method of dynamically optimizing a power converter including a plurality of converter modules connected in parallel between a power source and a load, comprising the steps of:

~~dynamically optimizing a power converter unit including a processor and a plurality of modules;~~

~~monitoring and comparing output power in view of an operating system power level to determine the number of modules to be activated to provide maximum efficiency; and~~

~~maximizing efficiency of the power converter supplying energy to a load~~

(a) initially activating each of said converter modules to supply power to said load;

(b) measuring an output power of said power converter;

(c) calculating an initial efficiency of said power converter when the measured output power is steady;

(d) identifying which of the converter modules should remain activated based on the measured output power, and deactivating any non-identified converter modules;

(e) calculating a present efficiency of said power converter after deactivating the non-identified converter modules;

(f) comparing the present efficiency with the initial efficiency, and activating the deactivated converter modules if the current efficiency is less than the initial efficiency; and

(g) periodically repeating steps (a) through (f).

13. (cancelled)

14. (cancelled)

15. (cancelled)

16. (cancelled)

17. (cancelled)

18. (cancelled)

19. (cancelled)

20. (new) A method of dynamically optimizing a power converter including a plurality of converter modules connected in parallel between a power source and a load, comprising the steps of:

(a) initially activating each of said converter modules, and setting a switching frequency of each converter module to an initial value;

(b) measuring an output power of said power converter;

(c) calculating an initial efficiency of said power converter when the measured output power is steady;

(d) identifying which of the converter modules should remain activated based on the measured output power, and deactivating any non-identified converter modules;

(e) calculating a present efficiency of said power converter after deactivating the non-identified converter modules;

(f) comparing the present efficiency with the initial efficiency, and activating the deactivated converter modules if the current efficiency is less than the initial efficiency;

(g) reducing the switching frequency of each converter module by a prescribed amount;

(h) re-calculating the efficiency of said power converter to determine whether the efficiency increased due to the switching frequency reduction of step (g);

(i) repeating steps (g) and (h) until it is determined that the efficiency has not increased; and

(j) periodically repeating steps (b) through (i).

21. (new) A method of dynamically optimizing a power converter including a plurality of converter modules connected in parallel between a power source and a load, comprising the steps of:

(a) initially activating each of said converter modules, and setting a switching frequency of each converter module to an initial value;

(b) measuring an output power of said power converter;

(c) calculating an initial efficiency of said power converter when the measured output power is steady;

(d) identifying which of the converter modules should remain activated based on the measured output power, and deactivating any non-identified converter modules;

(e) calculating a present efficiency of said power converter after deactivating the non-identified converter modules;

(f) comparing the present efficiency with the initial efficiency, and activating the deactivated converter modules if the current efficiency is less than the initial efficiency;

(g) reducing the switching frequency of each converter module by a prescribed amount;

(h) re-calculating the efficiency of said power converter to determine whether the efficiency increased due to the switching frequency reduction of step (g);

(i) repeating steps (g) and (h) until it is determined that the efficiency has not increased;

(j) iteratively adjusting a duty cycle of each activated converter module to equalize measured temperatures of the activated converter modules; and

(k) periodically repeating steps (b) through (j).